

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-24. (cancelled)

25. (currently amended) A composition comprising a monospecific F(ab')₂ wherein the F(ab')₂ :

(a) is free of F(ab')₂ having hinge region intrachain disulfide bonds; and

(b) comprises a first and a second Fab', each first and second Fab' comprising a CH1 domain fused to an amino acid sequence of ~~about 1~~ up to 10 amino acids, wherein the amino acid sequence of ~~about 1~~ up to 10 amino acids comprises a C terminal amino acid sequence of Cys-Ala-Ala ~~Cys-X-X, wherein X is Ala, Arg, Pro or Asp,~~ and the cysteine of the first Fab' forms a bond with the cysteine of the second Fab' to form the monospecific F(ab')₂.

26-38. (cancelled)

39. (previously presented) The composition of claim 25, wherein the F(ab')₂ polypeptide lacks a heavy and light interchain disulfide bond.

40. (previously presented) A composition comprising a F(ab')₂ comprising a first and second Fab', wherein each first and second Fab' comprises a CH1 region fused to an amino acid sequence consisting of Cys-X-X, wherein one or both Xs are absent or X is Ala, Arg, Asp or Pro.

41. (previously amended) The composition of claim 40, wherein the amino acid sequence consists of Cys-Ala-Ala or Cys-Pro-Pro.

42. (previously presented) The composition of claim 40, wherein the $F(ab')_2$ lacks a heavy and light interchain disulfide bond.

43. (previously presented) The composition of claim 25, wherein the $(Fab')_2$ lacks glycosylation.

44. (currently amended) A composition comprising a monospecific $F(ab')_2$ produced by the process of:

a) expressing a nucleic acid sequence encoding a Fab' in a microbial host cell under conditions suitable for secretion of the Fab' to the periplasmic space; wherein the Fab' comprises a CH1 domain fused at its C terminus attached to an amino acid sequence of ~~about 1~~ up to 10 amino acids, wherein the amino acid sequence of ~~1~~ up to 10 amino acids comprises a C terminal amino acid sequence of Cys-Ala-Ala ~~Cys-X-X~~, wherein X is Ala, Arg, Asp or Pro;

b) recovering the Fab' from the host cell and ~~forming a covalent bond between a~~ coupling the free thiol of each Fab' to form a the monospecific $F(ab')_2$ ~~or forming a covalent bond between a free thiol of the Fab' with a heterologous molecule.~~

45-48. (cancelled)

49. (new) A composition comprising a Fab' coupled to a heterologous molecule produced by the process of:

a) expressing a nucleic acid sequence encoding a Fab' in a microbial host cell under conditions suitable for secretion of the Fab' to the periplasmic space; wherein the Fab' comprises a CH1 domain fused at its C terminus to an amino acid sequence of up to 10 amino acids, wherein the amino acid sequence comprises a C terminal amino acid sequence of Cys-Ala-Ala;

b) recovering the Fab' from the host cell and coupling the free thiol of the Fab' with the heterologous molecule.

50. (new) The composition of claim 49, wherein the heterologous molecule is a detectable label, or solid support.

51. (new) The composition of claim 50, wherein the detectable label is a radionuclide or fluorescent probe.

52. (new) The composition of claim 49, wherein the CH1 domain of the Fab' is fused at its C terminus to Cys-Ala-Ala.